

APPENDIX D-6: BIOLOGICAL INVENTORY REPORT

**Cart Creek Impoundment
Site 1
North Branch Park River
Watershed,
Pembina County,
North Dakota**

Prepared for:

**Park River Joint Water Resource District
600 Cooper Avenue
Grafton, ND 58237**

I hereby certify that this report was prepared
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Date: 2019-10-29

HEI project no. 8150-0002



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EXECUTIVE SUMMARY

Staff from Houston Engineering, Inc. (HEI) completed a field investigation of the subject area to identify flora and fauna for a project on behalf of the Park River Joint Water Resource District. The subject property is in Thingvalla and Park Townships near the town of Mountain, in Pembina County, North Dakota, (**Figure C-18: Cart Creek Site 1, Drainage Area**). The survey was conducted by walking and by ATV use. Most of the site is composed of annually tilled cropland. Animal and plant species were identified by visual observation. Special attention was given to threatened and endangered species (TES), but no Federally-listed TES were identified during the survey. No State-listed, Level I plant Species of Conservation Priority were observed. There was one State-listed animal Level I Species of Conservation Priority identified, *Danaus plexippus* (Monarch butterfly).

1 INTRODUCTION

Staff from Houston Engineering, Inc. (HEI) completed a field investigation August 27th and 28th, 2019 to identify flora and fauna in proximity to a proposed flood control retention site, Cart Creek Impoundment Site 1. The purpose of this report is to describe the plant communities and the associated fauna identified within the proposed project area.

2 LOCATION

The project is located within the North Branch Park River Watershed in Thingvalla and Park Townships near the town of Mountain, in Pembina County, North Dakota, general latitude 48.666971, longitude -97.799409 (**Figure C-18: Cart Creek Site 1, Drainage Area**). The survey boundary extends along Section 26, Township 160N, Range 56W, and to the north along 131st St. The project is approximately 2.1 miles east of Mountain, ND (driving directions: from Mountain head north, turn east on 88th St; turn south on 131st St, the northern part of the project boundary is about 0.3 miles).

3 METHODS

The Cart Creek project was surveyed for flora and fauna on August 27th and August 28th, 2019. The survey area (825.3 acres) was identified as the potential project footprint and includes all of Section 24 Township 160N Range 56W, and portions of the surrounding sections (**Figure C-18: Cart Creek Site 1, Drainage Area**). The site was surveyed by walking and by ATV use. The site was sorted into four community categories. They include Wetland Community (25.3 acres), Creek Community (1.1 acres), Woodland Community (0.3 acres) and Prairie Community (256.1 acres). The remaining land within the



project site consists of tilled cropland and roadways (542.5 acres). Special attention was given to threatened and endangered species (TES) and their designated critical habitats.

A literature review was conducted prior to conducting the field survey to assist in identifying any Federally listed TES (**Section 4.1**) and State-listed Species of Conservation Priority (**Section 4.2**) that may have the potential of occurring within the project area. The presence of State- and County-listed noxious weeds was also observed (North Dakota Department of Agriculture 2017, 2019).

4 LITERATURE REVIEW

4.1 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) of 1973 recognized that our rich natural heritage is of “esthetic, ecological, educational, recreational, and scientific value to our Nation and its people.” The ESA is intended to protect and recover imperiled species and the ecosystems upon which they depend. The U.S. Fish and Wildlife Service (USFWS) administers ESA for terrestrial and freshwater organisms and the Commerce Department’s National Marine Fisheries (NMFS) administer the ESA for mainly marine wildlife.

The North Dakota Game and Fish Department (2016a) lists twelve TES protected under the ESA (Table 4-1). North Dakota does not have a State endangered or threatened species list. Only those species listed by the ESA are considered TES in North Dakota and the USFWS has primary oversight of TES.

*Table 4-1: Endangered, Threatened, Proposed, and Candidate Species and Designated Critical Habitat in North Dakota (North Dakota Game and Fish Department 2016a). * indicates potential occurrence in Pembina County (U.S. Fish and Wildlife Service, North Dakota Field Office (2019a).*

Scientific Name	Common Name	Status	Designated Critical Habitat
<u>PLANTS</u>			
<i>Platanthera praeclara</i>	western fringed prairie orchid	Threatened	No
<u>MAMMALS</u>			
<i>Canis lupus</i>	gray wolf	Endangered	No
<i>Mustela nigripes</i>	black-footed ferret	Endangered	No
<i>Myotis septentrionalis</i> *	northern Long-eared bat	Threatened	No
<u>BIRDS</u>			
<i>Calidris canutus rufa</i>	red knot rufa	Threatened	No
<i>Charadrius meldous</i>	piping plover	Threatened	Yes

<i>Grus americana</i>*	whooping crane	Endangered	No
<i>Sterna antillarum</i>	interior least tern	Endangered	No
<u>INVERTEBRATES</u>			
<i>Bombus affinis</i>	rusty patch bumble bee	Endangered	No
<i>Hesperia dacotae</i>	dakota skipper	Threatened	Yes
<i>Oarisma poweshiek</i>	poweshiek skipperling	Endangered	Yes
<u>FISH</u>			
<i>Scaphirhynchus albus</i>	pallid sturgeon	Endangered	No

TES that have the potential to occur within the Cart Creek Site 1 are *Grus americana* (whooping crane) and *Myotis septentrionalis* (northern long-eared bat). *Canis lupus* (gray wolf) also has the potential to be found in eastern North Dakota. However, there are no known breeding populations in North Dakota, therefore any occurrence would be most likely individuals passing through (North Dakota Game and Fish 2016b).

Bombus affinis (rusty patch bumble bee U.S. Fish and Wildlife Service, Midwest Region Endangered Species 2019a), *Oarisma poweshiek* (Poweshiek skipperling U.S. Fish and Wildlife Service, Midwest Region Endangered Species 2019b), and *Mustela nigripes* (black-footed ferret North Dakota Game and Fish 2016c) have been classified as extirpated from North Dakota, but bumblebee and ferret of the historic range was not in Pembina County. According to the USFWS County Occurrence list, the piping plover, interior least tern, pallid sturgeon, Dakota skipper, red knot rufa, and western fringed orchid do not occur in Pembina County or adjacent counties (Cavalier and Walsh counties) (U.S. Fish and Wildlife Service, North Dakota Field Office 2019a).

4.1.1 NORTHERN LONG-EARED BAT

Northern long-eared bats typically roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees during the summer. Caves and mines may be roost locations for males and non-reproductive females during this time. Northern long-eared bats can be opportunistic when selecting roosts. Tree species based on suitability to retain bark or provide cavities or crevices are preferred habitat. In rare cases, barns, sheds, and bridge decks have also been found to be roosting places for the bats. (U.S. Fish and Wildlife Service, Midwest Region Endangered Species 2019c).

North Dakota Game and Fish Department lists documented sightings of the northern long-eared bat in forested habitat in the Turtle Mountains and the riparian corridors of the Little Missouri and Missouri rivers (North Dakota Game and Fish Department 2016d). Some forested areas are present along Cart Creek including one historic farmstead windbreak. Cavities were found in some of the dead eastern cottonwood

trees along the creek. Although no sightings of northern long-eared bat occurred at the time of the field survey, and no historic sightings in the region exist, northern long-eared bat habitat does exist on the project area.

4.1.2 WHOOPING CRANE

Historically, whooping cranes nested in North Dakota during the 1800s. Currently, they migrate through North Dakota during April to mid-May and fall (September to early November). U.S. Fish and Wildlife Service, North Dakota Field Office 2019b). If birds are flying through they would be sighted between late April to mid-June, more likely in the western two-thirds of the state. The birds prefer shallow wetlands but may be sighted in drier areas during migration . (U.S. Fish and Wildlife Service, North Dakota Field Office (2019b). Whooping cranes are known to occur in Pembina and all other counties in North Dakota, according to the list of *County Occurrence of Endangered, Threatened, Proposed, and Candidate Species and Designated Critical Habitat in North Dakota* (U.S. Fish and Wildlife Service, North Dakota Field Office (2019a). The Cornell Lab of Ornithology, eBird observations (2019) of whooping cranes are south and west of the Cart Creek Site 1 (south near Valley City and Jamestown, and west of Bismarck and Minot ND, Cornell Lab of Ornithology, eBird Observations 2017).

4.2 SPECIES OF CONSERVATION PRIORITY

The North Dakota Game and Fish Department prepared the *State Wildlife Action Plan* (SWAP) which represents the state's strategy for preserving animal resources for the foreseeable future (North Dakota Game and Fish Department 2015). The SWAP focuses on "species of greatest conservation need" and includes 47 bird, two amphibian, nine reptile, 21 mammal, 22 fish, ten freshwater mussel, and four insect species. Each species is given a priority designation based on conservation need. *Level I* species are those having a high level of conservation priority because of declining status in North Dakota or across their range; or have a high rate of occurrence in North Dakota, constituting the core of the species breeding range, but may be at-risk range wide. *Level II* species are those having a moderate or high level of conservation priority. *Level III* species are those having a moderate level of conservation priority but are believed to be peripheral or non-breeding in North Dakota. There are 36 *Level I* species, 44 *Level II* species, and 35 *Level III* species within the state.

An addendum to the SWAP included plant species of conservation priority. The *North Dakota Comprehensive Wildlife Strategy: Proposed Plant Species of Conservation Priority Addendum* (North Dakota Heritage Program 2013) prioritized sensitive plant species into levels (I, II, and III) based on global rank and updated ND state ranks along with the species vulnerability to climate change score using NatureServe's Climate Change Vulnerability Index (CCVI). These factors were weighed and compared to other regional state ranks to assign a plant species as either a *Level I*, *II*, or *III*.



4.2.1 NORTH DAKOTA LIST OF LEVEL 1 PLANT SPECIES OF CONSERVATION PRIORITY

Level I plant species of conservation priority are listed below (North Dakota Natural Heritage Program 2013):

- *Allium canadense* (meadow onion)
- *Asclepias lanuginosa* (wooly milkweed)
- *Astragalus neglectus* (Cooper's milkvetch)
- *Botrychium campestre* (prairie grapefern)
- *Carex formosa* (handsome sedge)
- *Chenopodium subglabrum* (smooth goosefoot)
- *Cypripedium candidum* (white lady's-slipper)
- *Eriogonum visherii* (Dakota buckwheat)
- *Helianthemum bicknellii* (Bicknell's sunrose)
- *Mentzelia pumila* (dwarf mentzelia)
- *Platanthera praeclara* (western prairie fringed orchid)
- *Polygonum leptocarpum* (thin-fruited knotweed)
- *Triantha glutinosa* (sticky false-asphodel)

4.2.2 NORTH DAKOTA LIST OF LEVEL 1 ANIMAL SPECIES OF CONSERVATION PRIORITY

Level I animal species are in decline and receive little or no monetary support or conservation efforts.

Level I species in North Dakota are listed below (North Dakota Game and Fish Department 2016e):

- *Ammodramus bairdii* (Baird's sparrow)
- *Ammodramus savannarum* (grasshopper sparrow)
- *Ammodramus nelsoni* (Nelson's sparrow)
- *Anaxyrus hemiophrys* (Canadian toad)
- *Anthus spragueii* (Sprague's pipit)
- *Botaurus lentiginosus* (American bittern)
- *Buteo regalis* (ferruginous hawk)
- *Buteo swainsoni* (Swainson's hawk)
- *Calamospiza melanocorys* (lark bunting)
- *Calcarius ornatus* (chestnut-collared longspur)
- *Chlidonias niger* (black tern)
- *Centrocercus urophasianus* (greater sage grouse)
- *Coccyzus erythrophthalmus* (black-billed cuckoo)
- *Corynorhinus townsendii* (Townsend's big-eared bat)
- *Coturnicops noveboracensis* (yellow rail)
- *Cycleptus elongatus* (blue sucker)
- *Cynomys ludovicianus* (black-tailed prairie dog)
- *Danaus plexippus* (monarch butterfly)
- *Eptesicus fuscus* (big brown bat)
- *Heterodon nasicus* (plains hog-nosed snake)

- *Lasmigona compressa* (creek heelsplitter)
- *Leucophaeus pipixcan* (Franklin's gull)
- *Limosa fedoa* (marbled godwit)
- *Marcrhybopsis gelida* (sturgeon chub)
- *Marcrhybopsis meeki* (sicklefin chub)
- *Margariscus nachtriebi* (northern pearl dace)
- *Melanerpes erythrocephalus* (red-headed woodpecker)
- *Myotis lucifugus* (little brown bat)
- *Myotis septentrionalis* (northern long-eared bat)
- *Numenius americanus* (long-billed curlew)
- *Opheodrys vernalis* (smooth green snake)
- *Phalaropus tricolor* (Wilson's phalarope)
- *Podiceps auritus* (horned grebe)
- *Potamilus ohioensis* (pink papershell)
- *Spea bombifrons* (plains spadefoot)
- *Speyeria idalia* (regal fritillary)

4.3 NOXIOUS WEEDS

According to the North Dakota Department of Agriculture, there are 12 noxious weeds identified within North Dakota. These species are as follows: *Amaranthus palmeri* (Palmer amaranth), *Artemisia absinthium* (absinth wormwood), *Carduus nutans* (musk thistle), *Centaurea diffusa* (diffuse knapweed), *Centaurea maculosa* (spotted knapweed), *Centaurea repens* (Russian knapweed), *Cirsium arvense* (Canada thistle), *Cynoglossum officinale* (houndstongue), *Euphorbia esula* (leafy spurge), *Linaria genistifolia* subsp. *dalmatica* (Dalmatian toadflax), *Linaria vulgaris* (yellow toadflax), *Lythrum salicaria* (purple loosestrife) and all cultivars (purple loosestrife), and *Tamarisk* spp. (salt cedar). Counties and cities have the option of adding additional weeds to a list for enforcement only in their jurisdiction. Pembina County has added *Tanacetum vulgare* (common tansy) and *Bassia prostrata* (kochia) (North Dakota Department of Agriculture 2019).

5 SURVEY RESULTS

Approximately 825 acres were surveyed. The survey area was comprised of creek, wetland, prairie, and woodland communities. Plant diversity within the survey area was moderate within the Cart Creek Site 1 plant and tree communities. The majority of the site is annually tilled cropland which limits diversity within the survey area. However, the multiple plant communities (creek, wetland, prairie, woodland) create habitat for many different animals, amphibians, and invertebrate species.



5.1 PLANTS

For plants, the survey found 103 plant species across the creek, wetland, prairie and woodland communities (**Attachment D-6-A**):

- 57 forbs
- 27 graminoid species
- 7 trees
- 12 shrubs

No TES or *Level 1* North Dakota Species of Concern plant species were found in the survey area. In all communities there were State- and County-listed noxious weeds (*Tanacetum vulgare*, and *Cirsium arvense*).

5.2 ANIMALS

Twenty-nine animal species were identified during the field survey (**Attachment D-6-B**):

- 4 mammals
- 13 birds
- 9 invertebrates
- 1 amphibian
- 1 reptile
- 1 fish

No TES animal species were found during the survey; however, one *Level 1* North Dakota Species of Concern was recorded: *Danaus plexippus*.

5.3 COMMUNITY TYPES

5.3.1 CREEK COMMUNITY

Approximately 1.1 acres of creek community along Cart Creek at the eastern extents of the survey area was assessed (**Figure 1** and **Figure 2**). The creek was dry at the time of the field assessment. The channel bottom substrate was mud with some sandy deposits at the surface. Vegetation was present along the banks. Dominant plant types included typical forb, graminoid, and shrub species characteristic to creek habitat (**Attachment D-6-A**). This vegetation included primarily grasses, rushes, willows, and broadleaf weeds. Frequently encountered species included: *Agrostis gigantea* (redtop grass), *Chenopodium album* (lambsquarters) *Juncus torreyi* (Torrey's rush), *Melilotus officinalis* (sweetclover), *Persicaria lapathifolium* (nodding smartweed), *Phalaris arundinacea* (reed canary grass), *Salix petiolaris* (meadow willow), and *Xanthium strumarium* (cocklebur). *Tanacetum vulgare* (common tansy), a Pembina County listed noxious weed was also identified. *Orconectes immunis* (calico crayfish), *Rana pipiens* (northern leopard frog), *Petrochelidon pyrrhonota* (cliff swallow), and *Procyon lotor* (raccoon) were present.



Figure D-6-1: Bridge over Cart Creek looking east (NW1/4 T160 R56 Sec 13)



Figure D-6-2: West creek channel looking south (NE1/4 T160 R56 Sec 24)

5.3.2 WETLAND COMUNITY

There are approximately 17 wetland areas (25.3 acres) located in the approximate 825-acre survey area. Wetland areas include natural basin wetlands in agricultural fields, natural basin wetlands located adjacent to Cart Creek, and wetlands formed in roadway ditches and connected through culverts. Wetland vegetation included primarily grasses, rushes, sedges, and willows. Frequently encountered species included: *Phalaris arundinacea* (reed canary grass), *Typha X glauca* (hybrid cattail), *Alopecurus arundinaceus* (creeping foxtail), *Eleocharis palustris* (spikerush), *Salix amygdaloides* (peachleaf willow). *Cirsium arvense* (Canada thistle), a State-listed noxious weed, along with *Tanacetum vulgare* (common tansy) (Pembina County listed noxious weeds) were identified in wetland communities. *Procyon lotor*

(raccoon), *Branta canadensis* (Canada goose), *Agelaius phoeniceus* (red-winged blackbird), and *Rana pipiens* (northern leopard frog) were also identified within the wetland communities.



Figure D-6-3: Ditch / swale looking east (W1/2 T160 R56 Sec 24).



Figure D-6-4: Emergency wetland looking east (NE1/4 T160 R56 Sec 24).

5.3.3 PRAIRIE COMMUNITY

The prairie community at the Cart Creek site was the most diverse with forbs and graminoid species (**Attachment D-6-B**). Approximately, 256.1 acres of prairie community is located throughout the project area. The prairie community consisted of field edges, set-aside programs (Wetland Reserve Program, WRP) and ditch banks. The project area in the NW ¼ of S19 T160N R55W contained a native prairie community, which it appeared to have been recently seeded. It contained native species including *Andropogon gerardii* (big bluestem), *Elymus canadensis* (Canada wild rye), *Panicum virgatum* (switchgrass), *Ratibida pinnata* (gray coneflower), and *Thinopyrum intermedium* (intermediate wheatgrass). It also contained many non-native species such as *Melilotus officinalis* (sweetclover) and *Cirsium arvense* (Canada thistle). Ditch banks contained *Bromus inermis* (smooth brome grass), *Poa pratensis* (Kentucky blue grass), *Cirsium arvense* (Canada thistle) and *Elymus repens* (quack grass). One small area of pasture was present along the creek at the north end of the project site. The WRP areas contained mostly *Bromus inermis* (smooth brome grass), *Poa pratensis* (Kentucky blue grass), *Solidago canadensis* (Canada goldenrod), *Cirsium arvense* (Canada thistle), and *Asclepius syriaca* (common milkweed). In the S ½ S ½ NW ¼ of Section 24 the WRP plant cover is very weedy and contains mostly *Sonchus arvense* (sow thistle), *Carduus nutans* (nodding plumeless thistle), and *Lactuca serriola* (yellow lettuce). The noxious weeds *Cirsium arvense* and *Tanacetum vulgare* were also identified in this community. Invertebrates were common and include *Danaus plexippus* (monarch butterfly), which is the only Level I Species of Conservation Priority observed during the survey. *Ictidomys tridecemlineatus* (striped gopher), *Geomys bursarius* (plains pocket gopher), and *Odocoileus virginianus* (white-tailed deer) were observed, along with several bird species including *Tympanuchus phasianellus* (sharp-tailed grouse), *Circus hudsonius* (northern harrier), and *Buteo jamaicensis* (red-tailed hawk) (see **Attachment D-6-B** for full species list).



Figure D-6-5: Wetland Reserve Program (WRP) looking east (E1/2 T160 R56 Sec 24)



Figure D-6-6: Wetland Reserve Program (WRP) looking north, soybean field north of WRP (E1/2 T160 R56 Sec 24)

5.3.4 WOODLAND COMMUNITY

The woodland communities represented are located primarily along the eastern extents of the survey area in Section 19 of Township 160N Range 55W, near the Cart Creek riparian areas. The woodland community comprises approximately 0.30 acres of the project area. Part of the community includes a historic farm windbreak. This area includes some species that were likely planted such as *Malus pumila* (apple) and *Caragana arborescens* (pea shrub, (Figure D-6-7)). Other areas are associated with the riparian zone of the historic creek channel (Figure D-6-8). These species included mostly *Populus deltoides* (eastern cottonwood), *Fraxinus pennsylvanica* (green ash) and *Salix amygdaloides* (peachleaf willow). See **Attachment D-6-A** for the plant species found during the survey. *Cirsium arvense* was also identified in this community. Fauna observed in woodland areas included *Odocoileus virginianus* (white-

tailed deer), and various bird species including *Zenaida macroura* (mourning dove), *Corvus brachyrhynchus* (American crow), *Spinus tristis* (goldfinch), and *Ammodramus* spp. (sparrows).



Figure D-6-7: Historic farmstead windbreak, looking north (NW1/4 T160 R55 Sec 19).



Figure D-6-8: Wooded riparian corridor, looking east (SW1/4 T160 R55 Sec 19)

5.4 PRESENCE OR POTENTIAL PRESENCE OF WHOOPING CRANE

No whooping cranes were found during the survey period. However, this was not unusual because the survey was conducted outside of the migratory period through North Dakota.

According to the USFWS County Occurrence list, Pembina County is potential territory for the whooping crane to stop in during spring and fall migration (U.S. Fish and Wildlife Service, North Dakota Field Office 2019b). However, Pembina County is not within the core migration route (Pearse 2015). Cart Creek Site 1 currently does not provide suitable habitat for whooping crane, therefore they are not likely to stop here during their migration. The adjacent cropland does provide small grains, corn, soybeans, wheat, and pasture that may be considered desirable feeding sites.

When reviewing the eBird statistics for 2019, the closest whooping crane recorded, year-round from 2014-2019 was approximately 130 miles south/southwest near the city of Oriska, ND and approximately 160 miles south/southwest near the Arrowwood National Wildlife Refuge in Pingree, ND and further west in North Dakota (CornellLab of Ornithology, eBird Observations 2019). According to the USFWS, between 1990 and 2011, no whooping crane adults were sighted in Walsh, Nelson, or Grand Forks (U.S. Fish and Wildlife Service, Refuge System – HAPET 2019).

5.5 PRESENCE OR POTENTIAL PRESENCE OF NORTHERN LONG-EARED BAT

No northern long-eared bats were found during the survey period. However, Pembina County is listed on the USFWS County Occurrence list (U.S. Fish and Wildlife Service, North Dakota Field Office 2019a). Cart Creek Site 1, in Pembina County, ND, is in potential territory for *Myotis septentrionalis* (northern long-eared bat) during the summer season, with the potential for producing young during this time. The bat arrives in North Dakota in early to late-May. The female will give birth to one pup within a maternity colony (usually 30 to 60 bats) in late-May to early-June. The bats require trees for roosting in the summertime. They then migrate out of North Dakota in mid-September to early October. (U.S. Fish and Wildlife Service, Midwest Region Endangered Species 2019c).

The woodland habitat at the Cart Creek Site offers potential roosting and pup rearing habitat – and lies within the known territory of *M. septentrionalis*. Dead trees and trees with crevices and cavities were found common and scattered throughout the woodland areas. This would be appropriate habitat for bats (**Figure D-6-9 and Figure D-6-10**) (Fish and Wildlife Service Midwest Region Endangered Species 2019c).



Figure D-6-9: Potential bat habitat - example of standing dead tree with crevices and cavities (1).



Figure D-6-10: Potential bat habitat - Example of standing dead tree with crevices and cavities (2), (August 27, 2019).

5.6 PRESENCE OR POTENTIAL PRESENCE OF LEVEL 1 NORTH DAKOTA PLANT SPECIES OF CONSERVATION PRIORITY

According to the Biota of North America Program, North American Plant Atlas, *Level 1* plant species listed in Pembina County are native species present in the state (see Table 5-1). *Asclepias lanuginosa* (wooly milkweed) and *Astragalus neglectus* (Cooper's milkvetch) are present and rare; *Chenopodium subglabrum* (smooth goosefoot) is present and not rare (The Biota of North America Program 2019). A search of Nature Serve revealed no records of *Level 1* plant Species of Conservation Priority recently reported within Pembina County (NatureServe 2019).

There were no *Level 1* North Dakota Plant Species of Conservation Priority identified during the field survey. Preferred habitat was found in the survey area that would be conducive for the *Allium canadense*

(meadow onion), *Asclepias lanuginosa* (wooly milkweed), *Astragalus neglectus* (Cooper's milkvetch), and *Carex formosa* (handsome sedge).

Table 5-1: Presence or potential presence of Level I North Dakota plant Species of Conservation Priority (The Biota of North America Program 2019). *Helianthemum bicknellii* (Bicknell's sunrose) and *Polygonum leptocarpum* (thin-fruited knotweed), two species listed in the Level 1 Species of Conservation Concern, were not identified in the North American Plant Atlas online database and therefore are not listed in this table.

Level I North Dakota Plant Species	Species present in state and native	Species present and not rare	Species Present and rare
<i>Allium canadense</i> (meadow onion)	X		
<i>Asclepias lanuginosa</i> (wooly milkweed)			X
<i>Astragalus neglectus</i> (Cooper's milkvetch)			X
<i>Botrychium campestre</i> (prairie grapefern)	X		
<i>Carex formosa</i> (handsome Sedge)	X		
<i>Chenopodium subglabrum</i> (smooth goosefoot)		X	
<i>Cypripedium candidum</i> (white lady's slipper)	X		
<i>Eriogonum visheri</i> (Dakota buckwheat)	X		
<i>Mentzelia pumila</i> (dwarf mentzelia)	X		
<i>Platanthera praeclara</i> (western prairie fringed orchid)	X		
<i>Triantha glutinosa</i> (sticky false-asphodel)	X		

5.7 NOTE: PRESENCE OR POTENTIAL PRESENCE OF LEVEL 1 NORTH DAKOTA ANIMAL SPECIES OF CONSERVATION PRIORITY

Potential presence of Level I species occurs within the area of the Cart Creek Site 1. Level I species classified as present and native, and either permanent or migrating through, include *Podiceps auritus* (horned grebe), *Botaurus lentiginosus* (American bittern), *Buteo swainsoni* (Swainson's hawk), *Buteo regalis* (ferruginous hawk), *Coturnicops noveboracensis* (yellow rail), *Limosa fedoa* (marbled godwit), *Phalaropus tricolor* (Wilson's Phalarope), *Leucophaeus pipixcan* (Franklin's Gull), *Chlidonias niger* (black tern), *Calamospiza melanocorys* (lark bunting), *Calcarius ornatus* (chestnut-collared longspur), *Anaxyrus hemiophrys* (Canadian toad), *Eptesicus fuscus* (big brown bat), *Myotis lucifugus* (little brown bat), and *Speyeria idalia* (regal fritillary). Though these species were not identified during the field survey, there is a potential for their habitat and species presence. A search of NatureServe revealed one record of Level I animal Species of Conservation Priority identified within Pembina County: *Potamilus ohioensis* (pink papershell) (NatureServe, 2019); this species was not identified during the field survey.

One Level I North Dakota animal species of conservation priority was identified within the survey area: *Danaus plexippus* (monarch butterfly). The monarch butterfly was observed within the prairie habitat during the survey (**Figure D-6-11**).



Figure D-6-11: Monarch butterfly within Prairie Habitat

5.8 MITIGATION OPTIONS FOR THE NORTHERN LONG-EARED BAT

The primary concern with bat at this site would be disturbance to potential maternity / roost habitat. Pregnant bats will give birth to one pup during late spring to summer (late May through July) in North Dakota. Disturbance to roost habitat while the northern long-eared bats are present, both roosting and nursery habitats can be destroyed, potentially resulting in a “take” of an individual. Tree removal during this period will have direct effect on individuals, colonies, and habitat. Noise and other human activities during construction that may cause disturbance can directly impact movement, especially during early and late evening time periods.

USFWS did designate critical habitat for this species in North Dakota and thus did not developed a specific recovery plan for the state. Minimization measures can be implemented to eliminate any direct effect on the northern long-eared bat, which would include construction practices that minimize disturbances. Construction should be timed as such to avoid disturbance in areas with potential roost habitat. Removal of trees should be performed outside the period of time when the bat is present (October 1 through April 1) (U.S. Fish and Wildlife Service, Midwest Region Endangered Species 2019c).

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7 SURVEYOR'S CREDENTIALS

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Education: Minnesota State University Moorhead – BS Biology

Professional Membership: MN Wetland Professionals Association

Certifications/Licenses: Certified Wetland Delineator State of Minnesota (no. 1001)

Training: Board of Water and Soil Resources – Jurisdictional Delineation of Wetlands in Minnesota; Advanced Delineation Practicum; Hydrologic Monitoring; Minnesota Routine Assessment Method; Wetland Plant Identification; University of Minnesota St. Paul – Soils 5555 – Wetland Soils, Dr. Jay Bell; NRCS – Engineering Properties of Soils; Minnesota DNR Native Plant Community Field Guide Training; Minnesota DNR Native Plant Community Field Plant Identification, Sedges of Minnesota Laboratory and Field Identification, 20+ years of fieldwork experience in the Northern Plains, UMN Approved Self-study course: Grasses of the Northern Plains.



ATTACHMENT D-6-A – LIST OF PLANT SPECIES FOUND WITHIN THE SURVEY AREA OF CART CREEK SITE 1

CREEK COMMUNITY

Genus/Species	Common Name	Plant Type	ND or County Noxious Weed
<i>Agrostis gigantea</i>	redtop grass	Graminoid	-
<i>Alisma subcordatum</i>	water plantain	Forb	-
<i>Ambrosia artemisiifolia</i>	annual ragweed	Forb	-
<i>Arctium minus</i>	common burdock	Forb	-
<i>Artemisia absinthium</i>	wormwood sage	Forb	-
<i>Beckmannia syzigachne</i>	sloughgrass	Graminoid	-
<i>Bidens connata</i>	beggar's tick	Forb	-
<i>Bidens frondosa</i>	devils beggar's tick	Forb	-
<i>Chenopodium album</i>	lambsquarters	Forb	-
<i>Cyclachaena xanthifolia</i>	marsh elder	Forb	-
<i>Echinochloa crus-galli</i>	barnyard grass	Graminoid	-
<i>Eleocharis palustris</i>	spikerush	Graminoid	-
<i>Equisetum arvense</i>	field horsetail	Forb	-
<i>Glyceria grandis</i>	American manna grass	Graminoid	-
<i>Impatiens capensis</i>	jewelweed	Forb	-
<i>Juncus nodosus</i>	knotted rush	Graminoid	-
<i>Juncus torreyi</i>	Torrey's rush	Graminoid	-
<i>Leersia oryzoides</i>	rice cut grass	Graminoid	-
<i>Melilotus alba</i>	white sweetclover	Forb	-
<i>Melilotus officinalis</i>	yellow sweetclover	Forb	-
<i>Mentha arvensis</i>	field mint	Forb	-
<i>Persicaria amphibium</i>	water smartweed	Forb	-
<i>Persicaria lapathifolium</i>	nodding smartweed	Forb	-
<i>Persicaria maculata</i>	spotted ladythumb	Forb	-
<i>Phalaris arundinacea</i>	reed canary grass	Graminoid	-
<i>Plantago major</i>	common plantain	Forb	-
<i>Populus deltoides</i>	eastern cottonwood	Tree	-
<i>Rumex crispus</i>	curly dock	Forb	-
<i>Sagittaria latifolia</i>	broadleaf arrowhead	Forb	-

Genus/Species	Common Name	Plant Type	ND or County Noxious Weed
<i>Salix interior</i>	sandbar willow	Shrub	-
<i>Salix petiolaris</i>	meadow willow	Shrub	-
<i>Schoenoplectus atrovirens</i>	green bulrush	Graminoid	-
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	Graminoid	-
<i>Tanacetum vulgare</i>	common tansy	Forb	Yes – Pembina Co.
<i>Trifolium hybridum</i>	alsike clover	Forb	-
<i>Typha X glauca</i>	hybrid cattail	Graminoid	-
<i>Veronica americana</i>	American speedwell	Forb	-
<i>Xanthium strumarium</i>	cocklebur	Forb	-

WETLAND COMMUNITY

Genus/Species	Common Name	Plant Type	Indicator Status Great Plains region*	Stratum	ND or County Noxious Weed
<i>Agrostis gigantea</i>	redtop grass	Graminoid	FACW	herb	-
<i>Alopecurus arundinacea</i>	creeping foxtail	Graminoid	FACW	herb	-
<i>Ambrosia artemisiifolia</i>	annual ragweed	Forb	FACU	herb	-
<i>Beckmannia syzigachne</i>	sloughgrass	Graminoid	OBL	herb	-
<i>Cirsium arvense</i>	Canada thistle	Forb	FACU	herb	Yes - ND
<i>Cyclachaena xanthifolia</i>	marsh elder	Forb	FAC	herb	-
<i>Echinochloa crus-galli</i>	barnyard grass	Graminoid	FACW	herb	-
<i>Elymus repens</i>	quack grass	Graminoid	FACU	herb	-
<i>Eleocharis palustris</i>	spikerush	Graminoid	OBL	herb	-
<i>Fraxinus pennsylvanica</i>	green ash	Tree	FAC	tree/shrub	-
<i>Hordeum jubatum</i>	foxtail barley grass	Graminoid	FACW	herb	-
<i>Bassia scoparia</i>	kochia	Forb	FAC	herb	Y - Pembina
<i>Medicago lupulina</i>	black medic	Forb	FACU	herb	-
<i>Phalaris arundinacea</i>	reed canary grass	Graminoid	FACW	herb	-
<i>Phlox pilosa</i>	prairie phlox	Forb	FACU	herb	-
<i>Poa pratensis</i>	Kentucky blue grass	Graminoid	FACU	herb	-
<i>Rhamnus cathartica</i>	common buckthorn	Shrub	FACU	shrub	-
<i>Rosa arkansana</i>	prairie rose	Shrub	FACU	shrub	-
<i>Rumex crispus</i>	curly dock	Forb	FACW	herb	-
<i>Salix amygdaloides</i>	peachleaf willow	Shrub	FACW	tree/shrub	-
<i>Salix discolor</i>	pussy willow	Shrub	FACW	shrub	-
<i>Salix interior</i>	sandbar willow	Shrub	FACW	shrub	-
<i>Salix petiolaris</i>	meadow willow	Shrub	OBL	shrub	-
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	Graminoid	OBL	herb	-
<i>Solidago canadensis</i>	Canada goldenrod	Forb	FACU	herb	-
<i>Solidago gigantea</i>	giant goldenrod	Forb	FAC	herb	-
<i>Sonchus arvensis</i>	sow thistle	Forb	FAC	herb	-
<i>Spartina pectinata</i>	cord grass	Graminoid	FACW	herb	-



Genus/Species	Common Name	Plant Type	Indicator Status Great Plains region*	Stratum	ND or County Noxious Weed
<i>Symphyotrichum lanceolatum</i>	white panicle aster	Forb	FACW	herb	-
<i>Tanacetum vulgare</i>	common tansy	Forb	FACU	herb	Yes- Pembina Co.
<i>Typha X glauca</i>	hybrid cattail	Graminoid	OBL	herb	-

PRAIRIE COMMUNITY

Genus/Species	Common Name	Plant Type	ND or County Noxious Weed
<i>Agrostis gigantea</i>	red top	Graminoid	-
<i>Alisma subcordatum</i>	water plantain	Forb	-
<i>Alopecurus arundinacea</i>	creeping foxtail	Graminoid	-
<i>Ambrosia artemisiifolia</i>	annual ragweed	Forb	-
<i>Ambrosia trifida</i>	giant ragweed	Forb	-
<i>Amaranthus retroflexus</i>	red root pigweed	Forb	-
<i>Andropogon gerardii</i>	big bluestem	Graminoid	-
<i>Anemone canadensis</i>	Canadian anemone	Forb	-
<i>Anthemis cotula</i>	stinking chamomile	Forb	-
<i>Apocynum cannabinum</i>	Indianhemp	Forb	-
<i>Artemisia absinthium</i>	wormwood sage	Forb	-
<i>Artemisia ludoviciana</i>	white sage	Forb	-
<i>Asclepius syriaca</i>	common milkweed	Forb	-
<i>Avena spp.</i>	wild oats	Graminoid	-
<i>Barbarea vulgaris</i>	garden yellowrocket	Forb	-
<i>Bromus inermis</i>	smooth brome	Graminoid	-
<i>Chenopodium album</i>	lambsquarters	Forb	-
<i>Chenopodium berlandieri</i>	pitseed goosefoot	Forb	-
<i>Cirsium arvense</i>	Canada thistle	Forb	Yes - ND
<i>Cirsium vulgare</i>	bull thistle	Forb	-
<i>Cyclachaena xanthifolia</i>	marsh elder	Forb	-
<i>Elymus canadensis</i>	Canada wild rye	Graminoid	-
<i>Elymus repens</i>	quackgrass	Graminoid	-
<i>Euphorbia esula</i>	leafy spurge	Forb	-
<i>Gentiana andrewsii</i>	bottle gentian	Forb	-
<i>Glycine max</i>	soybean	Forb	-
<i>Glycyrrhiza lepidota</i>	American licorice	Forb	-
<i>Helianthus annuus</i>	annual sunflower	Forb	-
<i>Lactuca serriola</i>	yellow lettuce	Forb	-
<i>Medicago sativa</i>	alfalfa	Forb	-



Genus/Species	Common Name	Plant Type	ND or County Noxious Weed
<i>Melilotus alba</i>	white sweetclover	Forb	-
<i>Melilotus officinalis</i>	yellow sweetclover	Forb	-
<i>Mentha arvensis</i>	field mint	Forb	-
<i>Panicum virgatum</i>	switchgrass	Graminoid	-
<i>Pascopyrum smithii</i>	western wheat grass	Graminoid	-
<i>Persicaria amphibia</i>	water smartweed	Forb	-
<i>Persicaria maculata</i>	spotted ladythumb	Forb	-
<i>Poa pratensis</i>	Kentucky blue grass	Graminoid	-
<i>Potentilla norvegica</i>	Norwegian cinquefoil	Forb	-
<i>Prunus americana</i>	American plum	Forb	-
<i>Ratibida pinnata</i>	gray coneflower	Forb	-
<i>Rumex crispus</i>	curly dock	Forb	-
<i>Schoenoplectus fluviatilis</i>	river bulrush	Graminoid	-
<i>Setaria pumila</i>	yellow foxtail grass	Graminoid	-
<i>Echinosystis lobata</i>	wild cucumber	Forb	-
<i>Solidago canadensis</i>	Canada goldenrod	Forb	-
<i>Sonchus arvensis</i>	sow thistle	Forb	-
<i>Symphoricarpos albus</i>	common snowberry	Shrub	-
<i>Symphyotrichum lanceolatum</i>	white panicle aster	Forb	-
<i>Tanacetum vulgare</i>	common tansy	Forb	Yes – Pembina Co.
<i>Thinopyrum intermedium</i>	intermediate wheatgrass	Graminoid	-
<i>Thlaspi arvense</i>	field pennycress	Forb	-
<i>Tragopogon dubius</i>	goat's beard	Forb	-
<i>Trifolium pratense</i>	red clover	Forb	-
<i>Typha latifolia</i>	broadleaf cattail	Graminoid	-
<i>Urtica dioica</i>	stinging nettle	Forb	-

WOODELAND COMMUNITY

Genus/Species	Common Name	Plant Type	Stratum	ND or County Noxious Weed
<i>Acer negundo</i>	boxelder	Tree	tree/shrub	-
<i>Asparagus officinalis</i>	asparagus	Forb	herb	-
<i>Bromus inermis</i>	smooth brome	Graminoid	herb	-
<i>Caragana arborescens</i>	pea shrub	Shrub	shrub	-
<i>Cirsium arvense</i>	Canada thistle	Forb	herb	Yes - ND
<i>Cornus sericea</i>	redosier dogwood	Shrub	shrub	-
<i>Elaeagnus angustifolia</i>	Russian olive	Tree	Tree	-
<i>Fraxinus pennsylvanica</i>	green ash	Tree	tree/shrub	-
<i>Glycyrrhiza lepidota</i>	American licorice	Forb	herb	-
<i>Laportea canadensis</i>	wood nettle	Forb	herb	-
<i>Lonicera tatarica</i>	Tatarian honeysuckle	Shrub	shrub	-
<i>Malus pumila</i>	apple	Tree	Tree	-
<i>Phalaris arundinacea</i>	reed canary grass	Graminoid	herb	-
<i>Poa pratensis</i>	Kentucky blue grass	Graminoid	herb	-
<i>Populus deltoides</i>	eastern cottonwood	Tree	tree/shrub	-
<i>Prunus virginiana</i>	chokecherry	Shrub	tree/shrub	-
<i>Rhamnus cathartica</i>	common buckthorn	Shrub	tree/shrub	-
<i>Ribes hirtellum</i>	hairy gooseberry	Shrub	shrub	-
<i>Salix amygdaloides</i>	peachleaf willow	Shrub	tree/shrub	-
<i>Salix discolor</i>	pussy willow	Shrub	shrub	-
<i>Salix interior</i>	sandbar willow	Shrub	shrub	-
<i>Salix petiolaris</i>	meadow willow	Shrub	shrub	-
<i>Symphoricarpos albus</i>	common snowberry	Shrub	shrub	-

ATTACHMENT D-6-B – LIST OF ANIMAL SPECIES FOUND WITHIN THE SURVEY AREA OF CART CREEK SITE 1

Genus/Species	Common Name	Type of habitat occupying	ND Species of Concern Status (Global Status)*
<u>MAMMALS</u>			
<i>Geomys bursarius</i>	plains pocket gopher	Prairie	(G5)
<i>Ictidomys tridecemlineatus</i>	striped gopher	Prairie	(G5)
<i>Odocoileus virginianus</i>	white-tail deer	Prairie, Woodlands	(G5)
<i>Procyon lotor</i>	raccoon	Creek, Wetlands	(G5)
<u>BIRDS</u>			
<i>Agelaius phoeniceus</i>	red-winged blackbird	Wetlands	(G5)
<i>Ammodramus spp.</i>	sparrow spp.	Prairie, Woodlands	(G5)
<i>Branta canadensis</i>	Canada goose	Wetlands	(G5)
<i>Buteo jamaicensis</i>	red-tailed hawk	Prairie	(G5)
<i>Circus hudsonius</i>	northern harrier	Prairie	(G5)
<i>Corvus brachyrhynchus</i>	American crow	Woodlands, Prairie	(G5)
<i>Hirundo rustica</i>	barn swallow	Creek	(G5)
<i>Perdix perdix</i>	gray partridge	Prairie	(G5)
<i>Spinus tristis</i>	gold finch	Woodlands	(G5)
<i>Sturnella neglecta</i>	meadow ark	Prairie	(G5)
<i>Tympanuchus phasianellus</i>	sharp-tail grouse	Prairie	(G5)
<i>Tyrannus tyrannus</i>	eastern kingbird	Prairie	(G5)
<i>Zenaida macroura</i>	mourning dove	Woodlands	(G5)
<u>INVERTEBRATES</u>			
<i>Bobmus impatiens</i>	common eastern bumble bee	Prairie	(G5)
<i>Danaus plexippus</i>	monarch butterfly	Prairie	Level I (G4)

Genus/Species	Common Name	Type of habitat occupying	ND Species of Concern Status (Global Status)*
<i>Dissosteira carolina</i>	Carolina locust	Prairie	(G5)
<i>Gryllus spp.</i>	field cricket	Prairie	(GNR)
<i>Lasioglossum spp.</i>	sweat bee	Prairie	(GNR)
<i>Melanoplus bivittatus</i>	common grasshopper	Prairie	(G5)
<i>Orconectes immunis</i>	calico crayfish	Creek	
<i>Phoebis sennae</i>	cloudless sulphur butterfly	Prairie	(G5)
<i>Pieris rapae</i>	cabbage white butterfly	Prairie	(G5)
<i>Vanessa atalanta</i>	red admiral butterfly	Prairie	(G5)
<u>AMPHIBIANS</u>			
<i>Rana pipiens</i>	northern leopard frog	Wetlands, Creek	(G5)
<u>REPTILES</u>			
<i>Storeria occipitomaculata</i>	red belly snake	Prairie	(G5)

*Note: Global Status information was obtained through NatureServe Explorer (NatureServe 2019): <http://explorer.natureserve.org/granks.htm>.

G4: Apparently Secure; G5: Secure; GNR: Unranked